

REMARKS

The applicants' comments are preceded by related remarks of the examiner set forth in small bold font.

2. Claims 1-5, 7, 9, 10, 11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isfeld et al. U.S. Patent No. 5592622 (hereinafter Isfeld) in view of Klein et al. U.S. Patent No. 6134665 (hereinafter Klein).

3. Referencing claim 1, Isfeld teaches a processor, comprising:

4. one or more processing engines to schedule transfers of data packets between the processor and the devices, (e. g. col. 8, line 50 -col. 9, line 15);

5. a push engine to perform unsolicited transfers of the status data to the processing engines in response to the module collecting new status data, (e. g. col. 23, line 45 -col. 24, line 15). Isfeld does not specifically teach a module configured to collect status data from devices connected to a bus, the status data indicating readiness of the devices to participate in data transfers over the bus. Klein teaches a module configured to collect status data from devices connected to a bus, the status data indicating readiness of the devices to participate in data transfers over the bus, (e. g. col. 1, line 50 -col. 2, line 8). It would have been obvious to one skilled in the art at the time the invention was made to combine Klein with Isfeld because if one device does not receive a type of status data (i.e. acknowledgement signal), transfer errors could accumulate in the system.

The applicant disagrees because neither of the Isfeld or Klein references discloses or suggests that the status data that is transferred is status data indicating a "readiness of the devices to participate in data transfers." Isfeld's status data is nothing more than "channel status" (col. 12, line 63), "status information associated with the message" (col. 13, line 3), "buffer status" (col. 19, line 26), or "cell destination address error status" (col. 26, line 15), etc. And Klein's status data indicates only that the computer has failed a self-test, which is not an indication that the computer is ready to participate in data transfers. Because neither of the references describes or suggests that the status data indicates "readiness ... to participate in data transfers", the combination of them would never have made claim 1 unpatentable.

Claims 2-8 depend on claim 1, and are patentable for at least the same reasons as claim 1.

12. Claims 9, 10, 11, 13 are rejected for similar reasons as stated above.

Claim 9 recites "readiness of devices connected to the bus to one of transmit and receive data packets," (emphasis added) and is patentable for at least the same reasons as claim 1. Claims 10-17 depend on claim 9 and are patentable for at least the same reasons as claim 9.

33. Claims 18, 19 and 26 are rejected under 35 U. S. C. 103(a) as being unpatentable over Ebrahim (5887134) in view of Gullede (5644623).

34. Referencing claim 18, Ebrahim teaches a router, comprising:

35. a bus, (e. g. col. 1, lines 36 - 48); and

36. a parallel processor coupled to the bus and comprising, (e. g. col. 1, lines 36 - 48):

37. a plurality of processing engines to process data transfers with a plurality of devices connected to the bus, (e. g. col. 15, lines 19 - 37). Ebrahim does not specifically teach an interface connected to collect ready status data from the devices and to automatically transfer ready status data the processing engines in response to the status data being collected. Gullede teaches an interface connected to collect ready status data from the devices and to automatically transfer ready status data the processing engines in response to the status data being collected. It would have been obvious to one skilled in the art at the time the invention was made to combine Gullede with Ebrahim because it would be faster if the status was automatically transfer once the status data was collected. This could aid in the shortening of latency.

Claim 18 recites "an interface connected to collect ready status data from the devices and to automatically transfer ready status data the processing engines in response to the status data being collected." (emphasis added) This feature is neither disclosed nor suggested by Ebrahim or Gullede. The examiner recognizes the shortcoming of Ebrahim in this respect. And, in Gullede, "the current status of the cellular radiotelephone ... includes all of the well known status information pertaining to the operation of a cellular radiotelephone including--service indication, ROAM indication, channel type voice/control, SAT fade, adjacent channel signal strength, and number of handoffs." None of these well-known items is "ready status data." Because neither of the references discloses or suggests this feature, no combination of them could have made the claim unpatentable.

Claims 19-27 depend on claim 18, and are patentable for at least the same reasons as claim 18.

54. Claims 28 -30 are rejected under 35 U. S. C. 103(a)as being unpatentable over

O'Loughlin et al. (6275505) (hereinafter O'Loughlin) in view of Witkowski (6430626) in further view of Isfeld (5592622).

55. As per claim 28, O'Loughlin teaches an article comprising a computer-readable medium which stores executable instructions for transferring data packets over a bus, the instructions causing a processor to, (e. g. col. 10, lines 20 - 33):

56. But, O'Loughlin does not specifically teach collect information on readiness of devices connected to the bus to one of transmit and receive data packets; and

57. transfer a portion of the collected information to a processing engine configured to schedule data transfers, the transferring being unsolicited by the processing engine. Witkowski teaches information on readiness of devices connected to the bus to one of transmit and receive data packets, (e. g. cols. 23 - 24). It would have been obvious to one skilled in the art at the time the invention was made to combine Witkowski with O'Loughlin because it would be more efficient to transmit and receive data when the devices is ready. If the device is not ready it could receive or transmit incorrect data leading to errors. Isfeld teaches transfer a portion of the collected information to a processing engine configured to schedule data transfers, the transferring being unsolicited by the processing engine, (e. g. col. 23, line 45 - col. 24, line 15). It would have been obvious to one skilled in the art at the time the invention was made to combine Isfeld with the combine system of O'Loughlin and Witkowski because it would be more efficient if data that was more important was to be transferred first. Furthermore, it would be faster if the data that was transmitted were unsolicited because the data would not use up time in unnecessary processing.

Claim 28 recites collecting "information on readiness of devices connected to the bus to one of transmit and receive data packets," a feature that is neither disclosed nor suggested in the quoted paragraphs (cols. 23-24) of Witkowski. Instead, the quoted paragraphs disclose "The RECEIVE LIST 509 includes an array of memory bits RXMEMCYC[28:0] which indicate whether the respective port is to receive data into the memory 212. ... The TRANSMIT LIST 510 includes the TXMEMCYC[28:0] array of memory bits, which indicate whether the respective port is to transmit data received from the memory 212." The quoted paragraphs disclose whether a port is to receive or to transmit data, but does not disclose whether a device is ready to receive or transmit data. The examiner does not contend that O'Loughlin says anything relevant about "information on readiness". Because neither O'Loughlin nor Witkowski discloses or suggests "information on readiness," no combination of them could have made the claim unpatentable.

Claims 29 and 30 depend on claim 28 and are patentable for at least the same reasons as claim 28.

The absence of a response to any particular position of the examiner should not be construed as a concession by the applicant of any such position. The expression of a response by the applicant should not be construed as a concession that there are not other reasons for patentability.

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Applicant asks that all claims be allowed. Enclosed is a \$110 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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Version with markings to show changes made

In the claims:

15. (Amended) The method of claim 12, wherein collecting further comprises:
writing the received ready status data to a status register; and
scheduling transfers of data packets over the bus in response to the transferred portion of
the ready status data.

18. (Amended) A router, comprising:
a bus; and
a parallel processor coupled to the bus and comprising:
a plurality of processing engines to process data transfers with a plurality of devices
connected to the bus; and
an interface connected to collect ready status data from the devices and to automatically
transfer ready status data to the processing engines in response to the status data being collected.